



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D4680-041
Job Sheet 202563



Part No: D4680-041

Job Qty: 1 pcs

Part Name: Skidtube Assembly

Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/30/19

Job Tracking No:

Due Date: 11/21/19

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG D4680 REV.G IPP REV:A 13.04.16 NEW ISSUE DD VERF:JLM IPP REV:B 13.08.08 PB2 DD VERF:JLM IPP REV:C 13.09.10 PB3 DD VERF:JLM IPP REV:D 13.11.14 AS PER DWG REV.B DD VERF:JLM IPP REV:C 14.11.24 AS PER DWG REV.C DD VERF:JLM IPP REV:D 15.06.10 AS PER DWG REV.D DD VERF:JLM IPP REV:E 16.03.23 AS PER DWG REV.E DD VERF:JLM IPP REV:F 19.09.18 AS PER DWG REV.G DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
120	Skidtubes - 1	1 pcs	11/21/19		0.00	1.14	Skidtubes - 1		DD
							Skidtubes - 2		
							Skidtubes - 3		
							Skidtubes - 4		
							Skidtubes - 5		
							Skidtubes - 6		
							Skidtubes - 7		
140	QC 5	1 pcs	11/21/19		0.00	0.00	QC 5 - 10		DAS NOV 19 2019 68 9-89
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
150	Handfinish - 1-1 Chemical-B4B	1 pcs	11/21/19		0.00	0.73	Handfinish - 1 - 1 - B4B		BEB 19-11-22



Container No: S232067



Part: D4680-041
Job No: 202563
Serial No/Batch: S232067
Revision: G
Inspector:
Exp Date:
Instructions: Various STC's

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaero.com

Date: 11/16/19

					Handfinish - 1 - 2 - B4B	
					Handfinish - 1 - 3 - B4B	
					Handfinish - 1 - 4 - B4B	
					Handfinish - 1 - 5 - B4B	
					Handfinish - 1 - 6 - B4B	
					Handfinish - 1 - 7 - B4B	
					Handfinish - 1 - 8 - B4B	
					Handfinish - 1 - 9 - B4B	
					Handfinish - 1 - 10 - B4B	
					Handfinish - 1 - 11 - B4B	
					Handfinish - 1 - 12 - B4B	
					Handfinish - 1 - 13 - B4B	
					Handfinish - 1 - 14 - B4B	
					Handfinish - 1 - 15 - B4B	
					Handfinish - 1 - 16 - B4B	
					Handfinish - 1 - 17 - B4B	
					Handfinish - 1 - 18 - B4B	
					Handfinish - 1 - 19 - B4B	
					Handfinish - 1 - 20 - B4B	
					Handfinish - 1 - 21 - B4B	
					Handfinish - 1 - 22 - B4B	
160 QC 7	1 pcs	11/21/19	0.00 0.00		QC 7 - 10	
					QC 7 - 13	
					QC 7 - 14	
					QC 7 - 15	
					QC 7 - 17	
					QC 7 - 18	
					QC 7 - 19	
					QC 7 - 2	
					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	
					QC 7 - 47	
					QC 7 - 48	
					QC 7 - 51	
					QC 7 - 58	
					QC 7 - 59	
					QC 7 - 60	M66

				QC 7 - 9	
				QC 7 - 68	
				QC 7 - 50	
				QC 7 - 67	
				QC 7 - 40	
				QC 7 - 24	
				QC 7 - 43	
				QC 7 - 61	
				QC 7 - 81	
				QC 7 - 76	
				QC 7 - 79	
170 Skidtubes - 2 - B4B	1 pcs	11/21/19	0.00 4.86	Skidtubes - 1 - B4B	DD
				Skidtubes - 2 - B4B	
				Skidtubes - 3 - B4B	
				Skidtubes - 4 - B4B	
				Skidtubes - 5 - B4B	
				Skidtubes - 6 - B4B	
				Skidtubes - 7 - B4B	
180 QC 5	1 pcs	11/21/19	0.00 0.00	QC 5 - 10	
				QC 5 - 12	
				QC 5 - 17	
				QC 5 - 18	
				QC 5 - 19	
				QC 5 - 22	
				QC 5 - 24	
				QC 5 - 3	
				QC 5 - 43	
				QC 5 - 49	
				QC 5 - 51	
				QC 5 - 58	
				QC 5 - 68	
				QC 5 - 9	
				QC 5 - 50	
				QC 5 - 30	
				QC 5 - 40	
				QC 5 - 61	
				QC 5 - 81	
210 Handfinish - 2-1 Pressure-B4B	1 pcs	11/21/19	0.00 0.73	Handfinish - 2 - 1 - B4B	
				Handfinish - 2 - 2 - B4B	NOV 2 8 2019
				Handfinish - 2 - 3 - B4B	
				Handfinish - 2 - 4 - B4B	
220 Powdercoat - 1 White Gl(A)-B4B	1 pcs	11/21/19	0.00 0.17	Powdercoat - 1 - B4B	
				Powdercoat - 2 - B4B	SETS 19-11-28
				Powdercoat - 3 - B4B	
				Powdercoat - 4 - B4B	
230 QC 3	1 pcs	11/21/19	0.00 0.00	QC 3 - 10	
				QC 3 - 13	
				QC 3 - 15	19-11-20
				QC 3 - 17	
				QC 3 - 18	
				QC 3 - 2	
				QC 3 - 28	
				QC 3 - 3	
				QC 3 - 30	
				QC 3 - 34	
				QC 3 - 36	

					QC 3 - 41	
					QC 3 - 51	
					QC 3 - 58	
					QC 3 - 59	
					QC 3 - 68	
					QC 3 - 9	
					QC 3 - 40	
					QC 3 - 19	
					QC 3 - 43	
					QC 3 - 24	
					QC 3 - 61	
					QC 3 - 81	
260 Handfinish - 4-1-Assembly-B4B	1 pcs	11/21/19	0.00	0.73	Handfinish - 4 - 1 - B4B	11-11-29
					Handfinish - 4 - 10 - B4B	
					Handfinish - 4 - 11 - B4B	
					Handfinish - 4 - 12 - B4B	
					Handfinish - 4 - 13 - B4B	
					Handfinish - 4 - 14 - B4B	
					Handfinish - 4 - 15 - B4B	
					Handfinish - 4 - 2 - B4B	
					Handfinish - 4 - 3 - B4B	
					Handfinish - 4 - 4 - B4B	
					Handfinish - 4 - 5 - B4B	
					Handfinish - 4 - 6 - B4B	
					Handfinish - 4 - 7 - B4B	
					Handfinish - 4 - 8 - B4B	
					Handfinish - 4 - 9 - B4B	
270 QC 5	1 pcs	11/21/19	0.00	0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
300 Packaging 3-1 - Stock - B4B	1	11/21/19	0.00	0.00	QC 5 - 40	DAS NOV 29 2019 B-89
					QC 5 - 61	
					QC 5 - 81	
					Packaging 3 - 1 - B4B	

310 QC 21 - SA	1 pcs	11/21/19	0.00 0.00	Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
				QC 21 - SA - 21	DAS 21 NOV 29 2019
				QC 21 - SA - 70	21
				QC 21 - SA - 53	9-09

Part Op 120 - DRILL NEW NUT PLATE HOLES 1-Cut Aft end as per dwg D4680 3-Drill Aft & Fwd Cap holes using DT8678 & Descriptions: DT8901 open aft cap 0.187". 4-Locate DT10149 & Drill Ground wire hole on top of Tube. 5-Locate DT10149 with 0.187" cleco in aft cap ,then Pilot Drill all X-Bolt holes using 0.187" drill. 6-Open ground wire hole .297" at 95.75" (1 at fwd end & 2 at aft end at 20.81" ref.) 8- 3 most fwd x-bolt holes must be laid out manually, open to #30. 9-Open Aft & Fwd Cap holes using .208" drill. 10- Open X-Bolt holes to .750" (10 places) 11- Drill Rivet Holes as per Dwg D4680 using DT10065 ***DO NOT DRILL RIVET HOLES ON SECTION G-G (TWO PLACES) Open G-G to .750 12-Debur holes.

140 - (QC5- Inspect part completeness to step on W/O)
150 - (Chemical Conversion Coat per QSI005 4.1)
160 - (QC7-Inspect Chemical Conversion Coat)
170 - 1- Install nutplate as per dwg (Detail L) 2- Bond web as per Dwg D4680 & QSI 015 2- Seal all faying surfaces using proseal and rivet Doubler as per Dwg D4680. A/R Proseal Batch: exp date: ***LET IT CURE FOR 7HRS*** START TIME: FINISH TIME: 3- Rivet doublers as per dwg Shave rivet as required, remove Proseal spill over. 4- Ream holes section C-C as per dwg, deburr 8 places 5- Swage x-bolt spacers as per Dwg D4680 and section C-C 8 places. 6- Swage x-bolt spacer as per dwg D4680 section G-G 7- Trim/Grind flush per QSI 002
180 - (QC5- Inspect part completeness to step on W/O)
210 - (Pressure Wash per QSI005 4.3/ Clean and remove all markings), Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.
220 - ****PLUG GROUND WIRE HOLE AS PER SECTION E-E**** (White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum), START TIME: 12:40 OVEN TEMPERATURE: 320 FINISH TIME: 1:10 11/21/19
230 - (QC3- Inspect Part Finish)
260 - (Assemble as per dwg), 1- Install Ground Wire inserts as per Dwg D4680. 2-Inspect for Foreign objects 3- Install Fwd & Aft caps as per Dwg D4680 and Detail "A" & "B". Fastener must be install wet as per note (9). Seal all faying surfaces note (8) A/R 241 Sika Flex Batch: 523109 Exp Date: 20-3-16 4- Wing Walk as per Dwg D4680 and QSI 005 4.4 Batch: 5229364
270 - (QC5- Inspect part completeness to step on W/O)

300 - (Identify as per dwg & Stock Location: _____)
310 - (QC21- Final Inspection - Work Order Release)

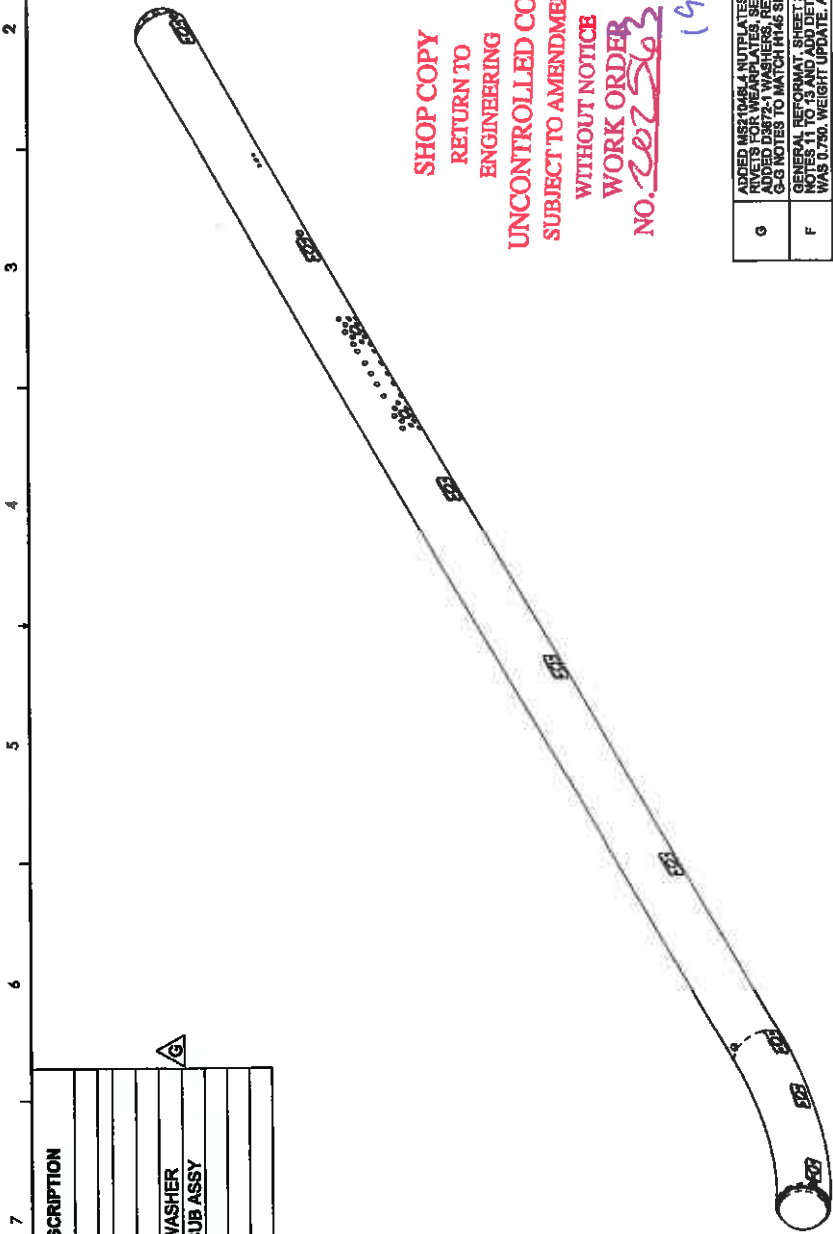
Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D4680-041-BENT	Extrusion Bent	1 pcs (1 ea)	120-Skidtubes - 1	013179
D5520-1	Doubler	2 pcs (2 ea)	120-Skidtubes - 1	516728
CR1122-3-02.5	Rivet	4 Ea (4 ea)	170-Skidtubes - 2 - B4B	528229
CR3212-5-05	Rivet	68 pcs (68 ea)	170-Skidtubes - 2 - B4B	528135
D4681-041	Web Assembly	1 pcs (1 ea)	170-Skidtubes - 2 - B4B	522547
D4686-1	Spacer	8 pcs (8 ea)	170-Skidtubes - 2 - B4B	523146
D5304-1	Crossbolt Spacer	2 pcs (2 ea)	170-Skidtubes - 2 - B4B	5216345
MS20601-AD4W3	Rivet	32 Ea (32 ea)	170-Skidtubes - 2 - B4B	522765
MS21048L4	Nut Plate	2 Ea (2 ea)	170-Skidtubes - 2 - B4B	5238309
AELS-1032-130	Rivnut	3 Ea (3 ea)	260-Handfinish - 4-1-Assembly-B4B	8057257
AN3C4A	Bolt	3 Ea (3 ea)	260-Handfinish - 4-1-Assembly-B4B	5212812
AN3C5A	Bolt	2 Ea (2 ea)	260-Handfinish - 4-1-Assembly-B4B	5123445
AN526C1032R10	Screw	2 Ea (2 ea)	260-Handfinish - 4-1-Assembly-B4B	5166981
D2965	Cap	1 pcs (1 ea)	260-Handfinish - 4-1-Assembly-B4B	5168520
D2965-3	Cap	1 pcs (1 ea)	260-Handfinish - 4-1-Assembly-B4B	5166571
D3672-1	Washer, Phenolic	2 pcs (2 ea)	260-Handfinish - 4-1-Assembly-B4B	F164009
NAS1149C0332R	Washer (AN960C10L)	5 Ea (5 ea)	260-Handfinish - 4-1-Assembly-B4B	5225629
D4753-1	Doubler	16 pcs (16 ea)	300-Packaging 3-1 - Stock - B4B	5214502

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
120-Skidtubes - 1	D4680-041-BENT	1	16	0
	D5520-1	2	34	0
170-Skidtubes - 2 - B4B	CR1122-3-02.5	4	32	0
	CR3212-5-05	68	820	0
	D4681-041	1	4	0
	D4686-1	8	80	0
	D5304-1	2	29	0
	MS20601-AD4W3	32	1,058	0
	MS21048L4	2	7	0
	AELS-1032-130	3	8	0
	AN3C4A	3	1,350	0
	AN3C5A	2	573	0
260-Handfinish - 4-1-Assembly-B4B	AN526C1032R10	2	33	0
	D2965	1	40	0
	D2965-3	1	37	0
	D3672-1	2	1,221	0
	NAS1149C0332R	5	4,552	0
	D4753-1	16	130	0
300-Packaging 3-1 - Stock - B4B				

Part Specifications

Specifications could not be found.

CITY -041	PIN	DESCRIPTION
X	D4680-041	SKIDTUBE
1	D2865	CAP
1	D2865-3	CAP
2	D3872-1	PHENOLIC WASHER
1	D4680-043	SKIDTUBE SUB ASSY
2	A83C5A	BOLT
2	A8628C1032R10	SCREW
2	NA51148C0332R	WASHER



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SUBJECT TO AMENDMENT
WITHOUT NOTICE

WORK ORDER
NO. 207563 MLS
19-11-01

NOTES:
1) MATERIAL: N/A
2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-6044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER QSI 005 SECTION 4.4
3) TOLERANCES: PER DART QSI 078 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: IDENTIFY WITH DART PIN TD4680-041* AND B/N PER QSI 044 METHOD 8.4 ON INNER RADIUS OF SKIDTUBE BEFORE INSTALLING D2865 CAP
7) WEIGHT: 19.7 lbs
8) SEAL FAYING SURFACES WITH SIKAFLEX -241/281 OR PROSEAL 8801/422 OR MIL-S-8802 CLASS B-2 SEALANT
9) INSTALL FASTENERS WET WITH SIKAFLEX -241/281 OR PROSEAL 8801/422 OR MIL-S-8802 CLASS B-2 SEALANT

RELEASED
2019 SEP 10 NO
EC/14-840

APPROVED

REV.	DESCRIPTION	AP	BY	DATE
DESIGN		AP		
DRAWN		ZF		
CHECKED		MM		
IMFG. APPR.		DD		
APPROVED		NO		
DE APPR.		DS		
DATE	19.03.28			

G	ADDED MOUNTING INTRUSION PLATES AND CR1425-02 B PLUGS FOR WEAP PLATES. SEE DETAIL L AND DETAIL M. ADDED D3872-1 WASHERS. REVERSED SECTION C-C AND G-G NOTES TO MATCH HM46 SKIDTUBES	ZF		19.03.28
F	GENERAL REFORMAT. SHEET 5: ADD ITEMS 8 & 11 ADD NOTES 11 TO 14 DETAIL AND DETAIL M. SHEET 3: 0.0108 INPS 0.020. WEIGHT AND DETAIL ADD PROSEAL 422	AJS		17.03.30
E	GROUNDING GROUNDS. REMOVED D4682-045 PLUG ASSEMBLIES	AP		15.11.02
D	MOVED AFT GROUNDING FASTENER HOLE AFT 0.25 DUE TO INTERFERENCE. ADDED NOTE 8 (SHT 1), GROUNDING STRAP WASHERS NOW STAINLESS	AP		15.03.04
C	NA51148C0332R WAS GROUNDING STRAP FASTENER. MOVED AFT (C8-3). 0.01750 WAS (0.01758 (B4-3).	AP		14.07.26
B	FINAL CAP WAS D2865. NOW D2865-3. VARIOUS DIMENSIONAL CHANGES. D2462-052 PLUG ASSY WAS D2462-051. SWAGING DIMENSION NOW 0.865 WAS 0.861. D2462-051 WAS GROUNDING STRAP FASTENER. D2462-051 (0.0175) GROUND HANDLING THRU HOLE NOW WELDED. ADDED SECTION G-G (D3-2)	AP		13.09.10
A	NEW ISSUE	AP		13.02.13

REV.	DESCRIPTION	AP	BY	DATE
DESIGN		AP		
DRAWN		ZF		
CHECKED		MM		
IMFG. APPR.		DD		
APPROVED		NO		
DE APPR.		DS		
DATE	19.03.28			

DART AEROSPACE USA, INC.	HILLSBORO, OR
DRAWING NO.	D4680
SHEET 1 OF 6	
SCALE	
NTS	

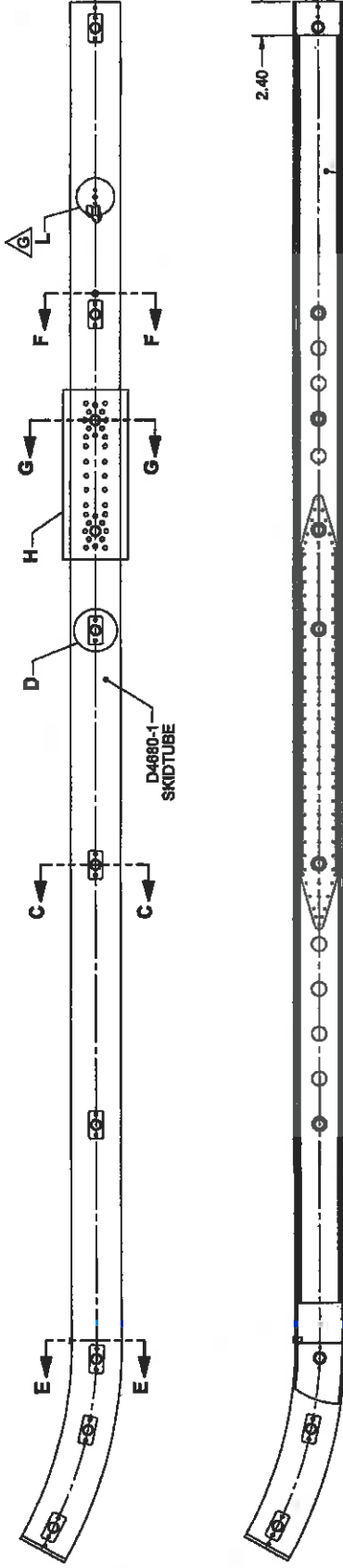
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QTY -043	P/N	DESCRIPTION
X	D4680-043	SKIDTUBE SUB ASSY
1	D4680-1	SKIDTUBE
1	D4681-041	WEB ASSY
8	D4686-1	SPACER
16	D4753-1	DOUBLER
2	D5304-1	CROSSBOLT SPACER
2	D5520-1	DOUBLER
3	AELS-1032-130	INSERT
3	AN3C4A	BOLT
4	CR1122-3-02.5	RIVET
88	CR3212-5-05	CSK RIVET, CHERRY MAX
32	MS20607AD4W3	RIVET, BLIND, CSK
2	MS21048L4	NUTPLATE
3	NAS1149C0332R	WASHER

DETAIL H
SCALE 4X

11 CR3212-5-05
CSK RIVET, CHERRY MAX
34 PL PER DOUBLER

10 D5520-1 DOUBLER
2 PL



D4680-043 SKIDTUBE SUB ASSY

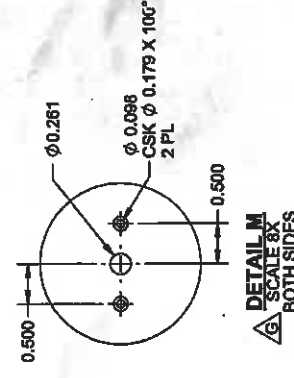
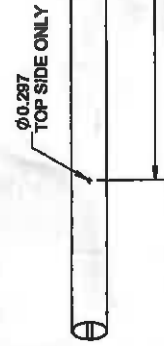
- NOTES:
- 1) MATERIAL: N/A
 - 2) FINISH: POWDER COAT WHITE (REF 4.3.1.1) PER DART QSI 005 4.3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: N/A
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 18.9 lbs
 - 8) SEAL ALL MATING SURFACES USING PROSEAL 8901422 OR MIL-S-8802 CLASS B2 SEALANT
 - 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-2411-281 ADHESIVE PER DART QSI 015
 - 10) LOCATE THE D5520-1 DOUBLER USING THE Ø0.188 PILOT HOLES ON THE SKIDTUBE AND DOUBLER
 - 11) LOCATE QTY (84) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.181 THRU SKIDTUBE AND DOUBLER USING DT10308
 - 12) COUNTERSINK THE SKIDTUBE Ø0.286 X 100" (34 PL) AND INSTALL EACH D5520-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS

RELEASED
2019 SEP 10 10

APPROVED

DESIGN	AP	DART AEROSPACE USA, INC.	REV. G
DRAWN	ZF	HILLSBORO, OR	SHEET 3 OF 6
CHECKED	MM	DRAWING NO.	D4680
MFG. APPL.	DD	NO	SKIDTUBE
APPROVED	NO	DATE	19.03.28
DE APPL.	DS	SCALE	NTS

COMPONENT 8 2015 BY DART AEROSPACE USA, INC.
FOR THE REMOVAL OF THE SKIDTUBE AND DOUBLER FROM THE SKIDTUBE SUB ASSY
PER THE REMOVAL OF THE SKIDTUBE AND DOUBLER FROM THE SKIDTUBE SUB ASSY



D4680-1 SKIDTUBE DRILLING DETAIL

DETAIL M
SCALE 8X
BOTH SIDES

RELEASED
2019 SEP 10 AM

APPROVED

DESIGN	AP	DART AEROSPACE USA, INC. HILLSBORO, OR DRAWING NO. D4680 REV. G OF E SHEET 5 OF 5 SCALE NTS TITLE SKIDTUBE COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE USA, INC.
DRAWN	ZF	
CHECKED	MW	
MFG. APPR.	DD	
APPROVED	NO	
DE APPR.	DE	
DATE	19.03.28	

NCR No.

Job: _____ Part No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT/PROCESS Cross tube ☐ Eng. (Non-AW) ☐ Engineering ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Water Jet ☐ Finishing ☐ Rec/Store/Packaging ☐ Supplier ☐ Skid-tube ☐ Machining ☐ Large Fab ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QS1042)			
Description Work Order Deviation		Disposition					
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY					
		Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Other/Details: _____		Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐	
		Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐					
		Completed By					
		Lead hand / Supervisor					
		QC / QA Coordinator					